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## TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Total Number of Pages in This Submission

Application Number

10/728,436

Filing Date

December 5, 2003

First Named Inventor

Yung-Tin Chen

Art Unit

1756

Examiner Name

Attorney Docket Number

MA-111

### ENCLOSURES (Check all that apply)

☐

Fee Transmittal Form

☐

Fee Attached

☐

Amendment/Reply

☐

After Final

☐

Affidavits/declaration(s)

☐

Extension of Time Request

☐

Express Abandonment Request

☒

Information Disclosure Statement

☐

Certified Copy of Priority Document(s)

☐

Reply to Missing Parts/  
Incomplete Application

☐

Reply to Missing Parts  
under 37 CFR 1.52 or 1.53

☐

Drawing(s)

☐

Licensing-related Papers

☐

Petition

☐

Petition to Convert to a  
Provisional Application

☐

Power of Attorney, Revocation

☐

Change of Correspondence Address

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Terminal Disclaimer

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Request for Refund

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CD, Number of CD(s) \_\_\_\_\_

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After Allowance Communication to TC

☐

Appeal Communication to Board  
of Appeals and Interferences

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Appeal Communication to TC  
(Appeal Notice, Brief, Reply Brief)

☐

Proprietary Information

☐

Status Letter

☒

Other Enclosure(s) (please identify  
below):

Return receipt postcard  
29 references

Remarks

### SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name

Matrix Semiconductor, Inc.

Signature

Printed name

Pamela J. Squyres

Date

5/26/05

Reg. No.

52246

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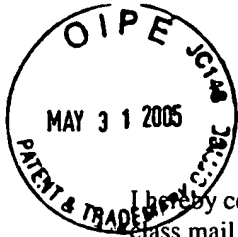
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Lorie Arkley  
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Lorie Arkley  
Signature

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant(s): Yung-Tin Chen	
Application No.: 10/728,436	Group Art Unit: 1756
Filed: December 5, 2003	Examiner: Unassigned
Title: Photomask Features with Interior Nonprinting Window Using Alternating Phase Shifting	
Attorney Docket No.: MA-111	

**INFORMATION DISCLOSURE STATEMENT**

Assistant Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir or Madam,

Pursuant to the obligation under 37 CFR § 1.56 and in conformance with 37 CFR §§ 1.97-1.99, Applicant hereby submits documents A1-A35 listed on the attached form PTO-1449 for consideration by the Examiner. Only copies of the reference documents A7-A35 are enclosed herewith. Applicant requests that the Examiner review the entire disclosure of these documents and make them of record.

The filing of this Information Disclosure Statement does not constitute an admission that the information cited herein is, or is considered to be, material to patentability as defined in 37 CFR §1.56(b). Further Applicant reserves the right to contest that any of the information submitted herewith is prior art against the present application.

Dated: May 26, 2005

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'P. Squyres', written over a horizontal line.

Pamela J. Squyres  
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**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

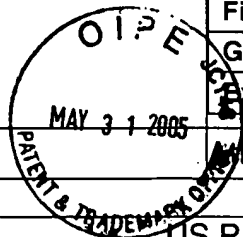
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Application Number	10/728,436
Filing Date	December 5, 2003
First Named Inventor	Chen, Yung-Tin
Group Art Unit	1756
Examiner Name	Unknown

Sheet 1 of 3

Attorney Docket No: MA-111

**US PATENT DOCUMENTS**

Examiner Initial *	Cite No	USP Document Number	Publication Date	Name of Patentee or Applicant of cited Document	Class	Subclass	Filing Date If Appropriate
	A1	6057063	05/02/2000	Liebmann et al.			
	A2	6523165	02/18/2003	Liu et al.			
	A3	6541165	04/01/2003	Pierrat			
	A4	6551750	04/22/2003	Pierrat			
	A5	6569583	05/27/2003	Cho et al.			
	A6	US20030022074A1	01/30/2003	Nolscher			

**FOREIGN PATENT DOCUMENTS**

Examiner Initials*	Cite No	Foreign Document No	Publication Date	Name of Patentee or Applicant of cited Document	Class	Subclass	T <sup>2</sup>
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**OTHER DOCUMENTS -- NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No *	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	A7	BERNARD, DOUGLAS.A., et al., "Clear Field Dual Alternating Phase Shift Mask Lithography", <u>Optical Microlithography XV, SPIE Vol. 4691, (2002),999-1008</u>	
	A8	BURKHARDT, M., et al., "Through Pitch Correction of Scattering Effects in 193 nm Alternating Phase Shift Masks", <u>Optical Microlithography XV Vol. 4691, No. I, SPIE, (2002),348-358</u>	
	A9	CHA, HAN-SUN., et al., "A Study on Optimization of Alternating Phase Shifting Mask Structure", <u>21st Annual BACUS Symposium on Photomask Technology, SPIE Vol.4562, No. II, (2002),1008-1016</u>	
	A10	FERGUSON, RICHARD.A., "Pattern-Dependent Correction of Mask Topography Effects for Alternating Phase-Shifting Masks", <u>SPIE Vol. 2440, (2/95),349-360</u>	
	A11	GRIESINGER, UWE., et al., "Balancing of Alternating Phase Shifting Masks for Practical Application: Modeling and Experimental Verification", <u>Proc. of SPIE, Vol. 4186, (2001),372-383</u>	
	A12	GRIESINGER, UWE., et al., "Transmission & Phase Balancing of alternating Phase Shifting Masks (5X)-Theoretical & Experimental Result", <u>19th Annual Symposium on Photomask Technology Vol. 3873, No. I, SPIE, Published in: Monterey, US,(1999),359-369</u>	
	A13	IRIE, SHIGEO., "Sub-70-nm Pattern Fabrication using an Alternating Phase Shifting Mask in 157-nm Lithography", <u>Optical Microlithography XV, SPIE, Vol. 4691, (2002),1654-1664</u>	
	A14	KANG, MYUNG-AH., "Feasibility evaluations of alternating phase shift mask for imaging sub-80nm feature with KrF", <u>Optical Microlithography XVI, SPIE Vol. 5040, (2003),1115-1124</u>	
	A15	KIM, KEEHO., et al., "Optimization of Process Condition to Balance MEF and OPC for Alternating PSM-Control of Forbidden Pitches", <u>Optical Microlithography XV, Vol. 4691, No.I, SPIE, (2002),240-246</u>	

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\* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. Applicant's unique citation designation number (optional) 2 Applicant is to place a check mark here if English language Translation is attached

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<b>Group Art Unit</b>	1756
<b>Examiner Name</b>	Unknown

Sheet 2 of 3

Attorney Docket No: MA-111

**OTHER DOCUMENTS -- NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	A16	KOO, SANG-SOOL., et al. , "Study on the Potentialities of sub-100nm Optical Lithography of Alternating and Phase-edge Phase Shift Mask for ArF Lithography", <u>20th Annual BACUS Symposium on Photomask Technology</u> , Vol. 4186, SPIE, (2001), 346-358	
	A17	KOSTELAK, R.L. , et al. , "Exposure Characteristics of Alternate Aperture Phase-Shifting Masks Fabricated using a Subtractive Process", <u>J. Vac. Sci. Tech. B</u> , Vol. 10(6), (Nov/Dec 1992), 3055-3061	
	A18	LEVENSEN, M.D. , et al. , "Phase Phirst! An Improved Strong-PSM Paradigm", <u>Proc. of SPIE</u> , Vol. 4186, (2001), 395-404	
	A19	LIN, CHIH-CHENG., et al. , "Alternating PSM defect printability at 193-nm wavelength", <u>21st Annual BACUS Symposium on Photomask Technology</u> Vol. 4562, No. II, SPIE, (2002), 1121-1125	
	A20	MAURER, WILHELM., et al. , "Proximity Effects of Alternating Phase Shift Masks", <u>19th Annual Symposium on Photomask Technology</u> , Vol. 3873, No. I, SPIE, (9/1999), 344-349	
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	A22	MURAI, SHIAKI., et al. , "Establishment of Production Process and Assurance Method for Alternating Phase Shift Masks", <u>20th Annual BACUS Symposium on Photomask Technology</u> , SPIE Vol. 4186, (2001), 890-901	
	A23	PETERSEN, JOHN.S. , et al. , "Designing Dual-Trench Alternating Phase-Shift Masks for 140 NM and Smaller Features Using 248 NM KRF and 193 NM ARF Lithography", <u>Proc. of SPIE</u> , Vol. 3412, (1998), 503-520	
	A24	PIERRAT, C., "Investigation of Proximity Effects in Alternating Aperture Phase Shifting Masks", <u>20th Annual BACUS Symposium on Photomask Technology</u> , Vol. 4186, SPIE, (2001), 325-335	
	A25	PIERRAT, CHRISTOPHE., et al. , "New alternating phase-shifting mask conversion methodology using phase conflict resolution", <u>Optical Microlithography XV</u> , Vol. 4691, No. I, SPIE, (2002), 325-335	
	A26	SAITOU, HIDETAKA., et al. , "Improvement of Alt-PSM Production Process Using Backside Phase Measurement Method", <u>21st Annual BACUS Symposium on Photomask Technology</u> Vol. 4562, No. II, SPIE, (2002), 1087-1095	
	A27	SHIN, IN-GYUN., et al. , "A Study on the effect of mask reduction ratio in alternating phase shift masks", <u>20th Annual BACUS Symposium on Photomask Technology</u> , Vol. 4186, SPIE, (2001), 309-315	
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	A29	TAN, SIA.K. , "Optimization of Alternating PSM Mask Process for 65 nm Poly Gate Patterning Using 193 nm Lithography", <u>Optical Microlithography XVI, SPIE Vol. 5040</u> ,	

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<b>Examiner Name</b>	Unknown

Sheet 3 of 3

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		(2003),1125-1136	
	A30	THIELE, JORG.,et al. , "Introduction of full level alternating phase shift mask technology into IC manufacturing", <u>Optical Microlithography XV</u> , Vol. 4691, No.I, SPIE, (2002),89-97	
	A31	TSAL, W.,et al. , "Technological Challenges in Implementation of Alternating Phase Shift Mask", <u>20th Annual BACUS Symposium on Photomask Technology</u> , Vol. 4186, SPIE, (2001),433-443	
	A32	WESTERMAN, R.,et al. , "Plasma Etching of Quartz for the Fabrication of Alternating Aperture Phase Shift Photomasks: Etch Rate Uniformity Study", <u>20th Annual BACUS Symposium on Photomask Technology</u> , Vol. 4186, SPIE, (2001),316-324	
	A33	WU, CLIVE., "Alternating PSM Design and Its Implications to the Design-to-Manufacturing Flow", <u>?</u> , Numerical Technologies, Inc. 70 W. Plumeria Dr., San Jose, CA 95134,7 pgs	
	A34	YAMAMOTO, TOMOHIKI.,et al. , "Impact of Alternating Phase Shift Mask Quality on 100 nm Gate Lithography", <u>20th Annual BACUS Symposium on Photomask Technology</u> , Vol. 4186, SPIE, (2001),423-432	
	A35	YOON, SI-YEUL.,et al. , "Evaluation of various alternating phase shifting mask processes for KrF lithography", <u>21st Annual BACUS Symposium on Photomask Technology</u> Vol. 4562, No. II, SPIE, (2002),1017-1025	

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